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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Confirmation No.	9264
Yitzchak Hillman	)	Art Unit:	1654
I.A. Filing Date : 12/21/2003 371 (c) Date : June 17, 2005	)	Examiner:	Kosar Andrew D
U.S. Appln. No. 10/539,558	)	Date:	February 2nd 2009
For: DISEASE TREATMENT VIA ANTIMICROBIAL PEPTIDE...	)	Att. Docket:	HILLMAN 1

REPLY TO RESTRICTION AND ELECTION REQUIREMENTS

Honorable Commissioner of Patents
U.S. Patent and Trademark Office
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir,

In response to the restriction requirement of 3rd of September 2008, I am hereby placing my argument against the restriction/rejection under 35 U.S.C. 101 and 102 to claims 113-117 and 122-125 under the pretence that the disclosure is inoperative and therefore lacks utility and that one skilled at in the art would not know how to use the claimed invention.

The disclosure clearly demonstrates by way of example two novel modes of treatment for disease:

1. Decreasing levels/activity of cathelicidin LL-37 for treating skin inflammatory disease, specifically for psoriasis.

2. Either decreasing levels/activity or the use of AMPs such as cathelicidin LL-37 as a modulator of activity in autoimmune or chronic inflammatory disease in skin for the purpose of treating same disease. Such disease activities (page 2, line 7) are associated with inflammation, dysregulated cell/tissue proliferation/differentiation, dysregulated cell/tissue proliferation/differentiation balance, angiogenesis metastasis, and/or epithelial wounds.

Regarding item (1) above, the disclosure clearly demonstrates by way of experiment, a specific indication (namely psoriasis). With regards to (2) the disclosure remains non-specific as to any particular specific indication showing in-vivo effects in human skin or in co-culture skin equivalents while claiming a general functionality in autoimmune and chronic inflammatory disease.

Numerous diseases which are associated with inflammation (page 6 line 5), dysregulated cell proliferation/differentiation, angiogenesis metastasis, and/or epithelial wounds appear to be associated with dysregulated AMP levels in affected cells/tissues (reviewed, for example, in Gallo and Nizet, 2003. Curr. Allergy and Asthma Reports 3:402; van Wetering et al., 1999. J Allergy Clin Immunol. 104:1131-8).

With regards to psoriasis and other skin pathologies, (page 6 line 11) it has been shown that there are increased levels of LL-37 and beta-defensin-2 in psoriasis lesions, but none to minor amounts in skin from atopic dermatitis patients, with psoriasis patients having at least 10 times as much of such AMPs in their skin as atopic dermatitis patients (Ong PY et al., 2002. N Engl J Med. 347:1151-60).

Histologically (page 6 line 27), psoriasis is characterized by abnormalities in the proliferation/differentiation balance of keratinocytes and fibroblasts, with abnormal differentiation and infiltration of the epidermis and dermis by neutrophils, lymphocytes, macrophages and mast cells.

While reducing the present invention to practice (page 22 line 25), it was also uncovered that AMPs could be used to significantly upregulate or downregulate growth of cultured human epithelial cells. Example 3 (page 89) shows clearly in a skin equivalent three-dimensional organotypic co-culture that a variation to the level of AMPs modulates skin morphology, proliferation and general well being that is abnormal in skin autoimmune and chronic inflammatory disease.

Clearly, the prior art as disclosed in the application, demonstrates that some skin chronic inflammatory diseases such as atopic dermatitis have a shortfall in AMPs such as cathelicidin (LL-37) expression as compared to normal skin. Following the applicant's disclosure, it would therefore be reasonably assumed by one skilled in the art that at least for some of the skin inflammatory indications (without being specific for any one particular indication) that the use of AMPs as opposed to their inhibition may be practical. Any specific indication could then be exemplified in a separate CIP.

The present invention (page 17 line 31) successfully addresses the shortcomings of the presently known configurations by providing: (i) a method of treating a disease which is associated with a biological process in a cell/tissue such as growth, differentiation, inflammation, metastasis and/or angiogenesis by using a compound which is capable of decreasing levels/activity of an AMP and/or an AMP-like molecule; and/or by using an AMP and/or an AMP-like molecule;

Hence, in sharp contrast to prior art techniques (page 22 line 28), the method according to the present invention enables use of compounds capable of decreasing levels/activity of AMPs/AMLs, and/or the use of AMPs/AMLs for regulating biological processes such as growth, differentiation, inflammation, metastasis and angiogenesis, and treatment of numerous diseases, such as those which are associated with inflammation, dysregulated cell proliferation/differentiation, angiogenesis, and/or metastasis, including carcinomas such as malignant metastatic skin carcinomas, wound-associated diseases such as ulcerative diseases, and autoimmune

diseases/diseases associated with dysregulated cellular proliferation/differentiation such as psoriasis.

Applicant also hereby petitions for a five month extension of time to file this response. The appropriate fee for a five month extension of time has been paid.

Respectfully submitted,

Yitzchak Hillman

AMENDMENT

Page 67 line 31 has a printing error that reads "application number @@@@".

The wording should in fact be "application number 20030044907".

The applicant requests that this be corrected.

Respectfully submitted,

Yitzchak Hillman